

# DATA SHEET

## 1N4728A~1N4764A

### GLASS PASSIVATED JUNCTION SILICON ZENER DIODE

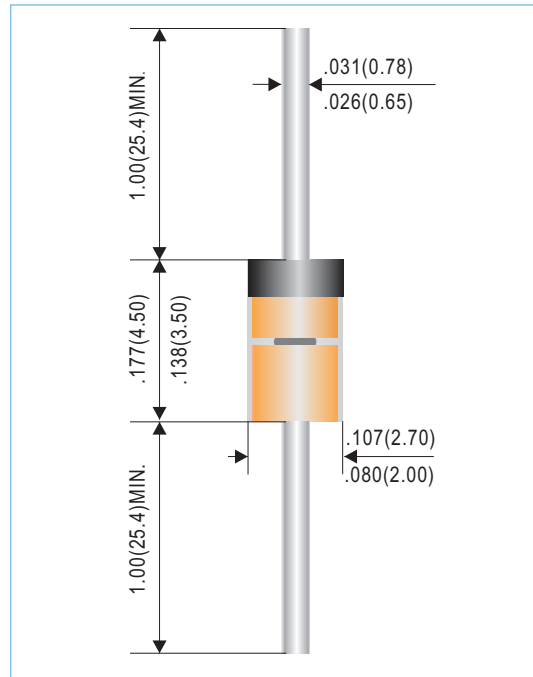
**VOLTAGE** 3.3 to 100 Volts **POWER** 1.0 Watts

#### FEATURES

- Low profile package
- Built-in strain relief
- Low inductance
- High temperature soldering : 260°C /10 seconds at terminals

#### MECHANICAL DATA

- Case: Molded Glass DO-41G
- Terminals: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes positive end
- Mounting position: Any
- Weight: 0.012 ounce, 0.3 gram



- Packing information

T/B - 2.5K per horiz. tape & Ammo box

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Units
Power Dissipation at Tamb = 25 °C	P <sub>TOT</sub>	1*	W
Operating Junction Temperature	T <sub>J</sub>	-55 to + 150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to + 150	°C

\*Valid provided that leads at a distance of 10mm from case are kept at ambient temperature.

Parameter	Symbol	Min.	Typ.	Max.	Units
Thermal Resistance Junction to Ambient Air	R <sub>thA</sub>	--	--	170*	K/W
Forward Voltage at IF = 200mA	VF	--	--	1.2	V

\*Valid provided that leads at a distance of 10mm from case are kept at ambient temperature.

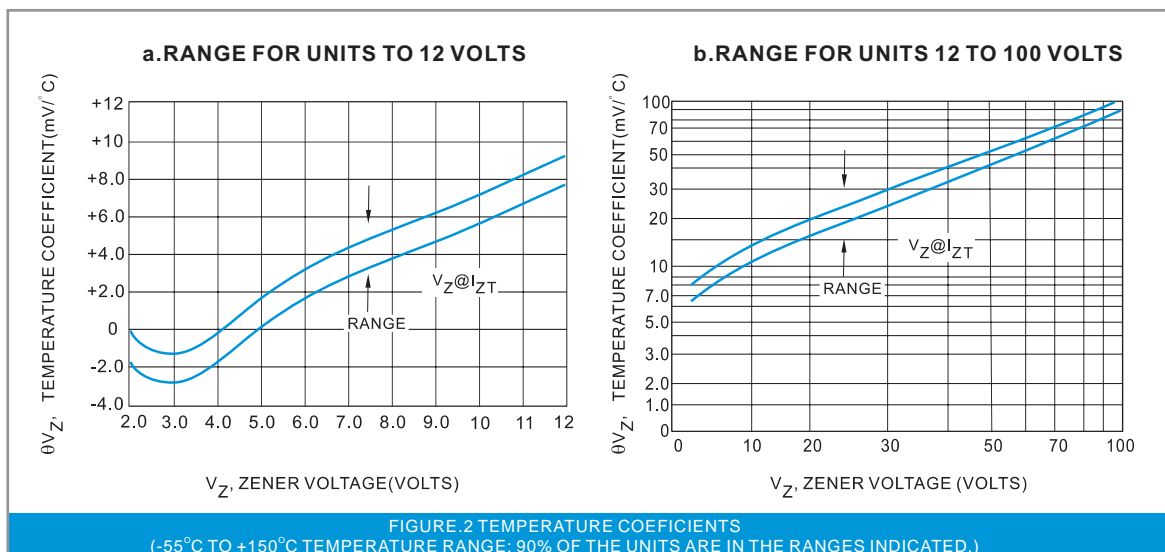
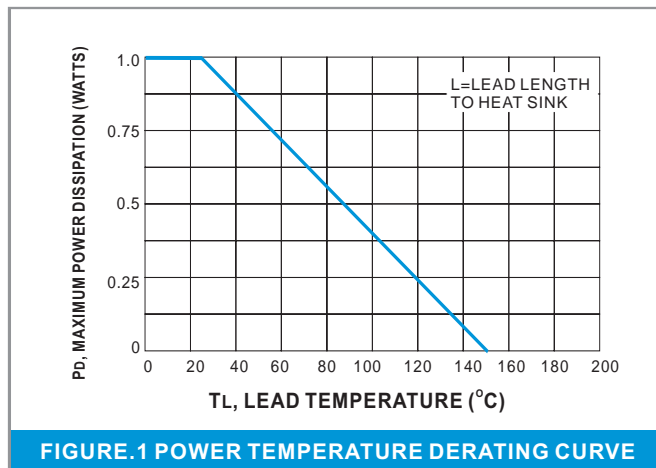
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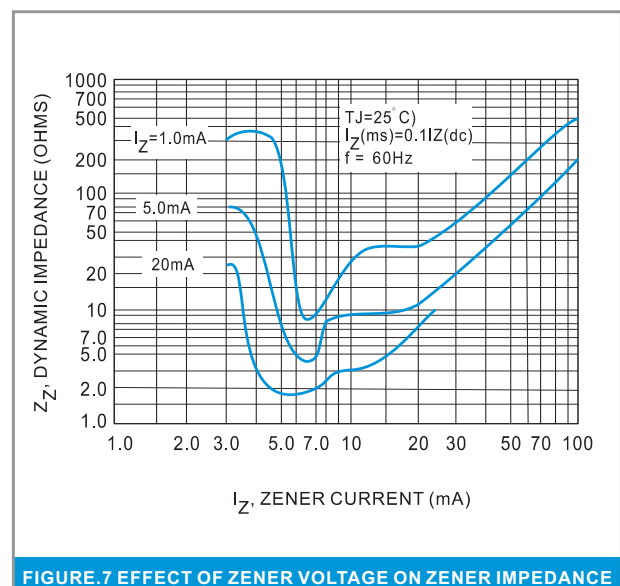
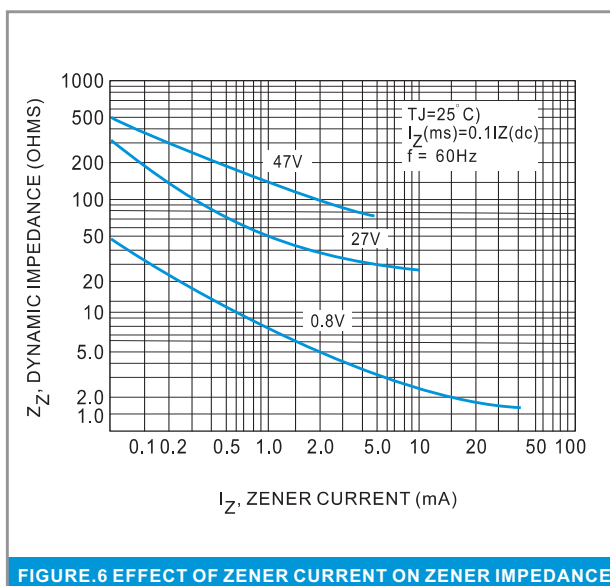
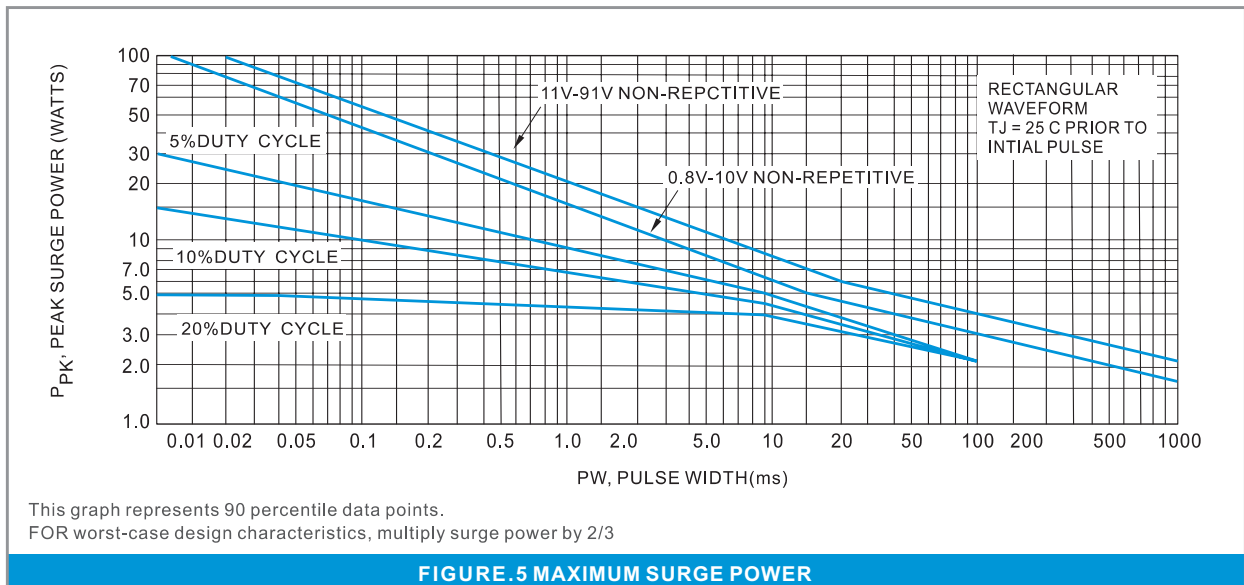
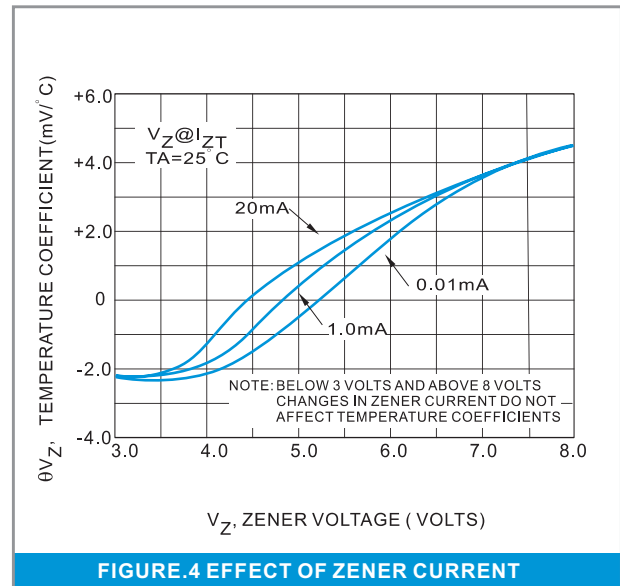
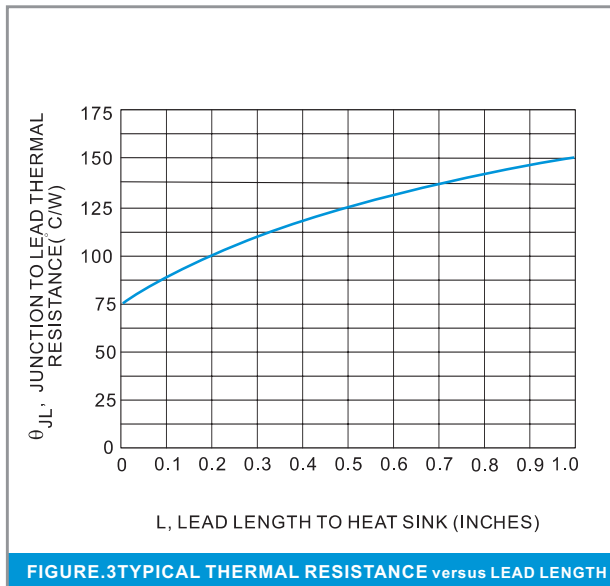
Part Number	Nominal Zener Voltage			Max. Zener Impedance				Maximum Leakage Current		Marking Code
	V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>		
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V	
1.0 Watt Zener Diodes										
1N4728A	3.3	3.14	3.47	10.0	76.00	400	1.00	100	1	1N4728A
1N4729A	3.6	3.42	3.78	10.0	69.00	400	1.0	100	1	1N4729A
1N4730A	3.9	3.71	4.10	9.0	64.00	400	1.0	50	1	1N4730A
1N4731A	4.3	4.09	4.52	9.0	58.00	400	1.0	10	1	1N4731A
1N4732A	4.7	4.47	4.94	8.0	53.00	500	1.0	10	1	1N4732A
1N4733A	5.1	4.85	5.36	7.0	49.00	550	1.0	10	1	1N4733A
1N4734A	5.6	5.32	5.88	5.0	45.00	600	1.0	10	2	1N4734A
1N4735A	6.2	5.89	6.51	2.0	41.00	700	1.0	10	3	1N4735A
1N4736A	6.8	6.46	7.14	3.5	37.00	700	1.0	10	4	1N4736A
1N4737A	7.5	7.13	7.88	4.0	34.00	700	0.5	10	5	1N4737A
1N4738A	8.2	7.79	8.61	4.5	31.00	700	0.5	10	6	1N4738A
1N4739A	9.1	8.65	9.56	5.0	28.00	700	0.5	10	7	1N4739A
1N4740A	10.0	9.50	10.50	7.0	25.00	700	0.25	10	7.6	1N4740A
1N4741A	11.0	10.45	11.55	8.0	23.00	700	0.25	5	8.4	1N4741A
1N4742A	12.0	11.40	12.60	9.0	21.00	700	0.25	5	9.1	1N4742A
1N4743A	13.0	12.35	13.65	10	19.00	700	0.25	5	9.9	1N4743A
1N4744A	15.0	14.25	15.75	14	17.00	700	0.25	5	11.4	1N4744A
1N4745A	16.0	15.20	16.80	16	15.50	700	0.25	5	12.2	1N4745A
1N4746A	18.0	17.10	18.90	20	14.00	750	0.25	5	13.7	1N4746A
1N4747A	20.0	19.00	21.00	22	12.50	750	0.25	5	15.2	1N4747A
1N4748A	22.0	20.90	23.10	23	11.50	750	0.25	5	16.7	1N4748A
1N4749A	24.0	22.80	25.20	25	10.50	750	0.25	5	18.2	1N4749A
1N4750A	27.0	25.65	28.35	35	9.50	750	0.25	5	20.6	1N4750A
1N4751A	30.0	28.50	31.50	40	8.50	1000	0.25	5	22.8	1N4751A
1N4752A	33.0	31.35	34.65	45	7.50	1000	0.25	5	25.1	1N4752A
1N4753A	36.0	34.20	37.80	50	7.00	1000	0.25	5	27.4	1N4753A
1N4754A	39.0	37.05	40.95	60	6.50	1000	0.25	5	29.7	1N4754A
1N4755A	43.0	40.85	45.15	70	6.00	1500	0.25	0.1	32.7	1N4755A
1N4756A	47.0	44.65	49.35	80	5.50	1500	0.25	0.1	35.8	1N4756A
1N4757A	51.0	48.45	53.55	95	5.00	1500	0.25	0.1	38.8	1N4757A
1N4758A	56.0	53.20	58.80	110	4.50	2000	0.25	0.1	42.6	1N4758A
1N4759A	62.0	58.90	65.10	125	4.00	2000	0.25	0.1	47.1	1N4759A
1N4760A	68.0	64.60	71.40	150	3.70	2000	0.25	0.1	51.7	1N4760A
1N4761A	75.0	71.25	78.75	175	3.30	2000	0.25	0.1	56	1N4761A
1N4762A	82.0	77.90	86.10	200	3.00	3000	0.25	0.1	62.2	1N4762A
1N4763A	91.0	86.45	95.55	250	2.80	3000	0.25	0.1	69.2	1N4763A
1N4764A	100	95.00	105.00	350	2.50	3000	0.25	0.1	76	1N4764A

**NOTE:**

1. Tolerance and Type Number Designation. The type numbers listed have a standard tolerance on the nominal zener voltage of  $\pm 5\%$
2. Specials Available Include:
  - A. Nominal zener voltages between the voltages shown and tighter voltage tolerances.
  - B. Matched sets.
3. Zener Voltage ( $V_Z$ ) Measurement. Guarantees the zener voltage when measured at 90 seconds while maintaining the lead temperature ( $T_L$ ) at  $30^\circ\text{C} \pm 1^\circ\text{C}$ , from the diode body.
4. Zener Impedance ( $Z_Z$ ) Derivation. The zener impedance is derived from the 60 cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current ( $I_{ZT}$  or  $I_{ZK}$ ) is superimposed on  $I_{ZT}$  or  $I_{ZK}$ .
5. Surge Current ( $I_r$ ) Non-Repetitive. The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2

**RATING AND CHARACTERISTICS CURVES**





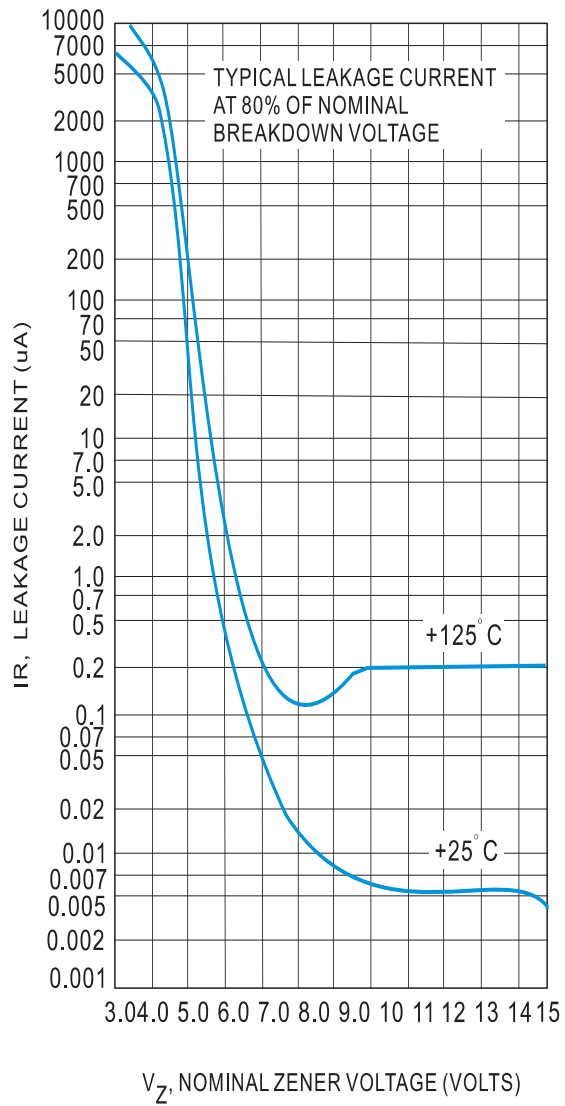


FIGURE.8 TYPICAL LEAKAGE CURRENT

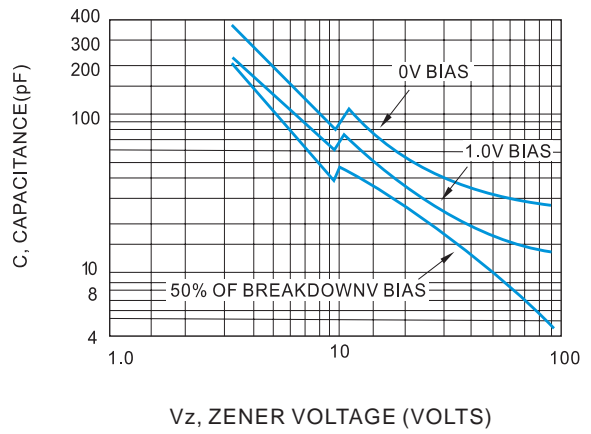


FIGURE.9 TYPICAL CAPACITANCE versus  $V_Z$

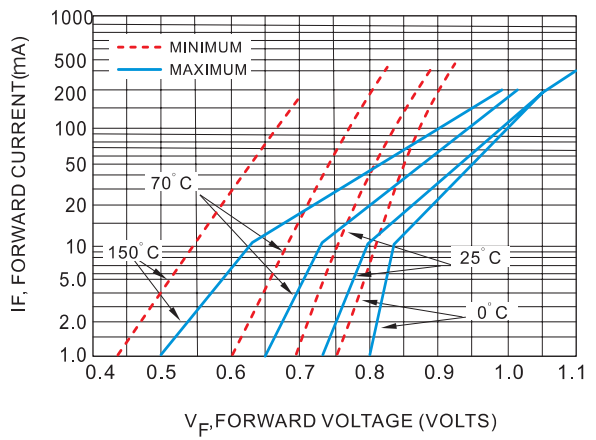


FIGURE.10 TYPICAL FORWARD CHARACTERISTICS